Course Name	Digital Electronic and VLSI
Prerequisite course	Electrical Circuits
Corequisite course	-
References	1. K.W. Martin, Digital Integrated Circuit Design, New York, Oxford University Press, 2000. 2. Jan M. Rabaey, A. Chandrakasan, and B. Nicolic, Digital Integrated Circuits, A Design Perspective, New Jersy, Prentice Hall, 2003. 3. N. H. E. Weste and David M. Harris, CMOS VLSI Design: A circuits and System Perspective, Fourth Edition, Pearson Education, publishing as Addison-Wesley, 2011.
Course instructor	Dr. Atena Abdi
Syllabus	1. Introduction and short review of electronics 2. Physical structure and fabrication process of MOSFETs, behavioral properties and the important parameters 3. Properties of logic families (propagation delay, fan in/out, noise margins and power) 4. CMOS and NMOS logics 5. Dynamic CMOS circuits 6. Design of sequential circuits (static/dynamic registers, pulse registers) 7. Wires (modeling and effects) 8. Power consumption management (static and dynamic) 9. Memories